THE MEETING POINT OF AMBRYSUS AND PELOCORIS IN NEVADA

(Hemiptera: Naucoridae)

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Until the recent discovery of a new species of *Pelocoris* in Nevada, it was customary to think of that genus as confined to the United States east of the Rocky Mountains, while *Ambrysus* was the western representative of the family, neither overlapping the other in range. With the description of *Pelocoris shoshone* La Rivers (1949) from Ash Springs, Pahranagat Valley, the range of the genus was extended over 800 airline miles westward, the new species representing an apparently isolated population completely surrounded by Ambrysi. The type locality was not thoroughly collected at the time, and no other naucorids were taken.

During a recent winter fish-collecting trip into southern Nevada, the general area was re-visited and more painstakingly searched for additional naucorid material, with rewarding results. The itinerary was from south-to-north, and the type locality of *P. shoshone* was one of the last places to be examined. Collecting northwesterly from Las Vegas, naucorids were first taken at a remarkably endemic area known as Warm Springs, the source of the Muddy or Moapa River, in Clark County just south of the Lincoln County line. Lying in the old course of Pleistocene White River, Warm Springs exhibits many remnant populations in both its vertebrate and invertebrate faunas. I was initially attracted to its possibilities by the fact that Hubbs and Miller had recently described a new genus of cyprinid fish from there (*Moapa coriacea,* 1948), specimens of which I wanted for our museum. During preliminary collecting at Warm Springs, the first naucorid taken was somewhat startling, being a new limnocorine, a subfamily of Naucoridae hitherto unknown in the United States. In one of the swift, warm outlet streams (pH 7.3, temperature 89°F) of the main source pool, an occasional *Ambrysus mormon* Montandon 1909 was intermixed with the limnocorine population in the ratio of approximately 1::20.

Nearby, on a low rise, a small marsh gave rise to water which spilled down the 15-foot slope at the east end of the marsh and

then meandered some 30 yards eastward through short grass to the main stream. At its origin, the marsh water was 83°F; at its terminus, 75°F. This brief system was found to contain all three genera of Naucoridae; in its lower reaches, the limnocorine was present, giving way to increasing numbers of *Ambrysus mormon*, which latter was the only species present in the swiftest portion of the stream where it descended the slope. Above these points, in the marsh waters, *Pelocoris shoshone* was the sole naucorid, occurring typically in the quiet waters under overhanging turf banks. Previously, *P. shoshone* had been known only from the type locality, some 55 airline miles northward.

Subsequent intensive collecting failed to alter the picture. It thus seems that the above-mentioned naucorids are rather markedly restricted to certain specific habitats, although a full-season's sampling may alter this picture. Conversely, an associated *Stenelmis* was found abundantly represented in all these habitats, indicating much less specificity.

The next productive collecting spot northward was Ash Springs, also on the remnant course of White River, where *P. shoshone* was the commonest naucorid, and, in point of fact, the commonest hemipteran—as at Warm Springs, it was confined to quiet waters, preferring vegetation or the overhanging turf banks, and so was found chiefly near the vicinity of the source springs of the long, winding, Ash Springs channel; many of the springs were in the nature of motionless seeps with several feet of mud bottom. However, collecting at the point where two outlet creeks carried water from the quiet channel, showed *A. mormon* to be dominant; in only one instance, under a bank at the immediate outlet, were *Ambrysus* and *Pelocoris* taken together in one sweep of the seine.

Ambrysus mormon is already well-known as the most widely distributed member of its genus in the United States; it and *P. shoshone* are fully winged, and the latter may be expected to occur more widely than its present known range indicates. The limnocorine, however, is incapable of flight, and very probably is restricted to the thermal waters of the Warm Springs area, and there solely to swift streams with suitable gravel bottoms.

Literature Cited

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LIFE HISTORY NOTES ON *INCITA AURANTIACA* HY. EDW.

(Lepidoptera: Phalaenidae)

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In the Gavilan Hills of Riverside County, California, on April 19, 1948, I observed several females of this species laying eggs between the hair entangled terminal bracts of young plants of *Gilia virgata* var. *dasyantha* (Brand.). Each moth required from 8 to 16 seconds to force its ovipositor through the dense wooly hairs and attach an egg near the base of a bract.

In the breeding cage, the eggs hatched on May 8 and 9; and the tiny larvae entered the *Gilia* buds. During the early instars the larvae remained hidden inside the buds and fed on the partially developed floral parts; during the last three instars they rested on the stems and ate blossoms and wooly hairs of the food plant. Leaves and stems were never eaten. In their last instar, I substituted flowers of *Gilia densifolia* Benth., which they readily accepted. Larvae enter the soil to pupate. A brief description of the mature larva follows:

Length 20 mm. Ground color greenish-white. A prominent mid-dorsal brown stripe extends from the second segment to the anal extremity. The following brown markings extend the entire length of the body; a subdorsal stripe which is rather indistinct on all but the first four segments; an irregular dorso-lateral stripe consisting of two fine, confluent lines; a rather dim lateral stripe; and a distinct supropodal stripe. There are a few brown markings on the prolegs. In the dorso-lateral area of each segment from 3 to 10 inclusive, there is a conspicuous rounded black spot a little forward of the center of the segment. The black spots on opposite sides of each of these segments are connected by a transparent orange bar which extends across the dorsal area. One larva lacked black spots on the third segment.